

CLAIMS

1. Method for identifying a communication interface of an electronic unit attached to a connector of an electronic device, comprising the steps of:
- 5 - generating a voltage pulse in said device on a pin of said connector;
- measuring the voltage on said pin, as affected by a load in said unit;
- comparing the measured voltage with predetermined voltage criteria; and
- performing communication interface identification of said unit dependent on said comparison.
- 10 2. The method as recited in claim 1, wherein said step of performing identification is preceded by the step of:
- selecting identification process dependent on the value of said measured voltage.
- 15 3. The method as recited in claim 1 or 2, wherein said step of performing identification is preceded by the step of:
- selecting identification process dependent on predetermined timing criteria.
- 20 4. The method as recited in claim 1, wherein said step of performing identification comprises the steps of:
- measuring dynamic behaviour of said voltage level; and
- allotting an identification address to said unit dependent on said dynamic behaviour.
- 25 5. The method as recited in claim 4, wherein said step of measuring dynamic behaviour comprises the steps of:
- measuring a time period during which said voltage holds a stable level; and
- measuring the value of said stable voltage level.
- 30 6. The method as recited in claim 5, wherein said identification address is

determined by the length of said time period and the magnitude of said voltage level value.

7. The method as recited in claim 5, wherein said identification address
5 comprises two nibbles, one address nibble being selected dependent the length of said time period and one other nibble being selected dependent on the magnitude of said voltage level value.

8. The method as recited in claim 5, wherein said identification address is a
10 two nibble hexadecimal number which is set dependent on predetermined time and voltage ranges.

9. The method as recited in claim 7, wherein a predetermined number is
15 selected for said one address nibble if the length of said time period exceeds a predetermined maximum time period.

10. The method as recited in claim 2, comprising the step of:
- monitoring a control bus of said connector for a predetermined time period,
dependent on if said measured voltage level meets predetermined criteria for
20 digital attachable units.

11. The method as recited in claim 10, wherein said predetermined criteria for
digital attachable units is a maximum threshold voltage level.

25 12. The method as recited in claim 10, in the event of data communication being detected over said control bus during said time period, comprising the step of:
- performing digital identification of said unit.

30 13. The method as recited in claim 10, in the event of no data communication being detected over said control bus during said time period, comprising the step

of:

- allotting an identification address comprising two nibbles to said unit, one address nibble for which a predetermined number is selected, and one other nibble for which a number is selected dependent on the magnitude of said voltage level value.

14. The method as recited in claim 1, comprising the step of:

- repeatedly generating said voltage pulse with a predetermined repetition frequency.

15. The method as recited in claim 1, comprising the steps of:

- repeatedly generating said voltage pulse with a predetermined repetition frequency characteristic; and
- adapting said repetition frequency to a mode of operation for said connector, by applying a first repetition frequency in an idle mode for said connector; and by applying a second repetition frequency, higher than said first repetition frequency, in an active mode for said connector, with an attached unit.

16. The method as recited in claim 1, wherein said step of performing identification includes the step of allotting the unit an identification address, the method further comprising the step of:

- accessing a data memory using said identification address for retrieving operational data associated with said unit.

17. The method as recited in claim 16, wherein said data memory is located in said electronic device.

18. The method as recited in claim 16, wherein said data memory is located in said electronic unit.

19. The method as recited in claim 16, comprising the steps of:

- establishing a connection over a communication network for accessing said memory; and
- downloading operational data relating to said unit to said electronic device.

5 20. The method as recited in claim 16, comprising the step of:

- making adjustments dependent on the attached electronic unit to said electronic device, based on said operational data.

10 21. The method as recited in any of the preceding claims, wherein said electronic device is a radio communication terminal, and said electronic unit is an accessory which is attachable to said radio communication terminal.

15 22. The method as recited in any of the preceding claims, wherein said identity is representative of a class of electronic units.

23. The method as recited in any of the preceding claims, wherein said identity is unique for said electronic unit.

20 24. Computer program product, comprising computer program code stored in memory means, which is executable by means of a micro processor in an electronic device for performing the steps according to any of the previous claims 1 - 22.

25 25. System for identification of an electronic unit having a communication interface comprising a first connector attachable to a system connector of an electronic device, wherein

- the electronic device comprises a voltage pulse generator connected to an identification pin of the system connector,
 - a first pin of the first connector, adapted to be coupled to the identification pin upon attachment of the first connector to the system connector, is coupled to an electronic circuit in the electronic unit,
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- the electronic circuit constitutes an electric load which is selected to represent an identity for said communication interface,
- the electronic device comprises identification means for measuring a voltage response from the communication interface, comparing the measured voltage with predetermined voltage criteria, and performing communication interface identification of said unit dependent on said comparison, **characterised in** that the electric load is connected between said first pin and ground, and in that the identification means are connected to measure the voltage response on the identification pin.

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26. The system as recited in claim 25, **characterised in** that said circuit comprises a resistive component, wherein said identity is dependent on the ohmic resistance of said resistive component.

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27. The system as recited in claim 25 or 26, **characterised in** that said circuit comprises a capacitive component, wherein said identity is dependent on the dynamics of said circuit.

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28. The system as recited in claim 26 and 27, **characterised in** that said circuit is devised to generate a dynamic load, when subjected to a voltage from an attached electronic device, which load holds a substantially stable voltage level over said connector for a predetermined time period, and then triggers said voltage to rise.

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29. The system as recited in claim 28, **characterised in** that said identity is determined by the duration of said predetermined time period and said voltage level.

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30. The system as recited in any of the previous claims 25 to 29, **characterised in** that said electronic unit comprises a second connector to which said circuit is connected, to which second connector an additional electronic unit

electronic unit may be cascably attached.

31. The system as recited in any of the previous claims 25 to 30,
characterised in that said electronic unit is an accessory which is attachable to
an electronic device in the form of a radio communication terminal.

32. The system as recited in any of the previous claims 25 to 31,
characterised in that said identity is representative of a class of electronic units.

33. The system as recited in any of the previous claims 25 to 31,
characterised in that said identity is unique for said electronic unit.

34. An electronic circuit, for use in an electronic unit of a system as recited in
claim 25, **characterised in** that said circuit is connected between one first
connector pin and ground, and comprises an electric load devised to generate a
dynamic voltage response on said first connector pin when subjected to a
voltage pulse on said pin from an electronic device attached to the electronic
unit, wherein the dynamic behaviour of the voltage response determined by the
electric load is representative of the identity of a communication interface of
said electronic unit.

35. The electronic circuit as recited in claim 34, **characterised in** that said
circuit comprises a transistor, a resistive component, and an RC component,
wherein said transistor controls current from the electronic device to the resistive
component which initially generates a substantially stable voltage level for a
predetermined time period, where after said RC circuit triggers said voltage to
rise.

36. The electronic circuit as recited in claim 35, **characterised in** that said
time period is dependent on the characteristics of said transistor, and in that said
transistor is contained on an ASIC.